

Amendments to the Claims:

Please cancel claims 1-19 and add new claims 20-37, all without prejudice.

Listing of the Claims:

1-19.(Cancelled)

20.(New) A memory comprising:

a non-volatile data storage element capable of storing a first data state characterized by a negative threshold voltage and one or more second data states characterized by a positive threshold voltage; and

sense circuitry connectable to the data storage element that can distinguish the data state of the storage element, comprising;

a compensation circuit, whereby the parameter used by the sense circuit to distinguish between the first and second data states in a normal read process is varied as a continuous function of one or more operating conditions.

21.(New) The memory of claim 20, wherein said operating conditions comprise temperature.

22.(New) The memory of claim 20, wherein said operating conditions comprise the voltage level of an external power supply.

23.(New) The memory of claim 20, wherein said data storage element is capable of storing a plurality of said second data states.

24.(New) The memory of claim 20, wherein said parameter is a voltage.

25.(New) The memory of claim 24, wherein said parameter is in a range of from 0 volts to 0.2 volts.

26.(New) The memory of claim 20, wherein said parameter is a current.

27.(New) The memory of claim 20, further comprising:

write circuitry connectable to the data storage element and the sense circuitry, wherein the sense circuitry is used for program verify and the verify level for the second data states is compensated based on operating conditions.

28.(New) The memory of claim 20, further comprising:

a negative voltage source; and

a band gap generator connectable to the negative voltage source whereby said parameter is provided.

29.(New) The memory of claim 28, wherein said parameter is a voltage and said band gap generator provides a voltage in the range of 0 volts to 0.2 volts.

30.(New) A method of operating a non-volatile memory, comprising:

selecting a data storage element storing one of a plurality of data states, said plurality of data states comprising a first data state characterized by a negative threshold voltage and one or more second data states characterized by a positive threshold voltage;

providing a sensing parameter, wherein said sensing parameter is varied as a continuous function of one or more operating conditions; and

using said sensing parameter to distinguish in a normal read process between the first data states and the second data states.

31.(New) The method of claim 30, wherein said plurality of data states comprises a plurality of second data states.

32.(New) The method of claim 30, wherein said operating conditions comprise temperature.

33.(New) The method of claim 30, wherein said operating conditions comprise the voltage level of an external power supply.

34.(New) The method of claim 30, wherein said sensing parameter is a voltage.

35.(New) The method of claim 34, wherein said sensing parameter is a voltage in the range of 0 volts to 0.2 volts.

36.(New) The method of claim 11, wherein said sensing parameter is a current.

37.(New) The method of claim 11, further comprising:
generating a negative voltage, wherein the sensing parameter is produced using said negative voltage.